



PAGID

BRAKE SYSTEMS

| BRAKE DISCS



FIRST CLASS PRODUCT RANGE

BRAKE DISCS IN OEM QUALITY

With a range that covers almost 98 percent of the Western European automotive market, HELLA PAGID is a welcome partner among garages. Each of the over 1,450 brake discs we currently carry offers the highest level of safety and comfort as well as the longest service life. Included in our portfolio are coated and uncoated brake discs and models with and without

ABS sensors, wheel hubs and wheel bearings. We are also very well positioned for the upcoming ECE R90 Directive. Our brake discs already meet all mandatory requirements that take effect as of November 2016. As such, we offer our partners the safety and security of knowing that all spare parts are aligned with the same performance parameters as original equipment.

ZERO TOLERANCE FOR COMPROMISES

Offering products of less than top quality is simply not enough for us.

This is why HELLA PAGID easily meets all of the performance requirements of the OEMs.

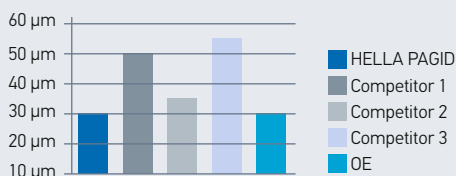
Nothing leaves our doors without being tested first

We continually check our brake discs to ensure that they comply with OEM standards. This is why garages and car drivers alike can place their trust in our products. The series of tests we conduct encompasses the following testing routines, among others:

- Durability test
- Tensile strength test
- X-ray test
- Strain and elongation test
- 3D dimensional check
- Thickness tolerance tests (parallelism, concentricity, roundness, roughness)
- Thermal conductivity test
- Hardness test according to Brinell

Last but not least, every brake disc from Hella Pagid is subjected to a 100 % visual inspection at the end of production.

Concentricity in μm , BMW Z4



Safety from a single casting

The base material used to manufacture brake discs is gray cast iron. To ensure that the material is processed correctly, all specified tolerances must be rigorously maintained. Only in this way can HELLA PAGID ensure a result that safeguards unsurpassed comfort, maximum braking performance and outstanding safety. To rule out the smallest of risks from the beginning, we recommend that brake discs always be replaced **on both sides of an axle**.

Better look and optimized performance

Our more than 750 HELLA PAGID PRO brake discs differ from standard products thanks to a special material composition and coating that ensures 100 % corrosion protection. An extra step that pays off for everyone. For car drivers, PRO brake discs also offer enhanced performance in addition to the attractive appearance. When installing, you save labor, time and money as the coating already applied eliminates the need for protective oil and the considerable amount of time it takes to remove it.

For select markets, HELLA PAGID also offers a special product range of high-carbon brake discs for particularly intense demands: HELLA PAGID CARBONIC.



Quality at the highest level

Offering products of less than top quality is simply not enough for us. This is why HELLA PAGID easily meets all of the performance requirements of the OEMs. When it comes to our brake discs, this affects the:

- Material structure
- Manufacturing method
- Chemical composition
- Production tolerances
- Product design
- Corrosion protection

DID YOU KNOW ...

... that when you brake a car in an emergency from 100 km/h to 0 km/h, the same amount of energy is released that is required to operate a standard 3-watt LED for 50 hours?

SMALL CAUSE – LARGE EFFECT!

Even the best brake discs can only provide optimal performance and driving comfort when they are in perfect working condition. The following examples of typical fault symptoms:



Overheating/juddering marks:

- Overload in the break-in phase
- Violent or sudden braking

Effect:

- Noise and vibration when braking from high speeds



Brake disc discolored from standing:

- Brakes used only infrequently
- Leaving the vehicle parked for long periods and environmental influences cause corrosion and structural changes in the friction ring

Effect:

- Braking noise
- Pulsating brake pedal



Non-uniform thickness of friction ring:

- Axial runout when braking only slightly

Effect:

- Juddering when cold



Scoring of brake disc:

- Overloading
- Effects of dirt
- Poor brake pad quality

Effect:

- Reduced braking effect
- Noise
- Increased wear



Rust underneath the contact face of the brake disc chamber:

- Faulty assembly
- Wheel hub not properly cleaned

Effect:

- Non-uniform thickness
- Lateral runout



Cracks near the brake disc chamber:

- Wrong torque
- Faulty assembly

Effect:

- Reduced stability
- Noise
- Steering wheel flutter

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